REMARKS

This responds to the Office Action mailed on <u>November 22, 2004</u>. In response thereto, claims 3-5, 8,9,13 and 29 are amended. As a result, claims 3-14, 17-23 and 26-30 are still pending in this application. No claims have been amended in response to any art rejection. Reconsideration and allowance of all claims is respectfully solicited.

Drawings

The drawings were objected to under 37 CFR § 1.83(a) because in claim 8 the claim element "the hint register includes a field to specify an iteration distance" was not shown in the drawings. Applicant respectfully submits that the feature has been canceled in amended claim 8 to remove the objection to the drawings. Reconsideration and removal of the objection is respectfully requested.

Specification

The disclosure was objected to because element 114 is usually referred to as a "detector" throughout the specification and drawings, and the word "checker" was used once on page 6, line 10 for element 114. Applicant has replaced the word "checker" with the word "detector" in the indicated location as per the Examiner's suggestion. Reconsideration and removal of the objection is respectfully requested.

Claims Objections

Claims 9-11, 13 and 14 were objected to because in claim 9, line 5, the word "iteration;" should be followed by the word "and" and in claim 13, line 2, the word "hint" should be replaced with the phrase "hint information" to be consistent with the specification. Applicant has made these changes as per the Examiner's suggestion. Reconsideration and removal of the objection is respectfully requested.

§*112 Rejection of the Claims*

Claims 3-14 and 29-30 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 3, 4, 5 and 9 were deemed to use an indefinite term. Applicant has corrected the perceived indefiniteness by changing the indefinite term to more clearly claim that an execution pipeline uses a register renaming stage to rotate registers in software pipelined loops. Also, a language error in claim 4, line 6 has been corrected and the phrase "data dependence is violated" in claim 29 has been clarified.

With these amendments to claims 3, 4, 5, 9 and 29, Applicant believes that the rejection of claims 3-14 and 29-30 under 35 U.S.C. § 112, second paragraph, has been overcome. Reconsideration and removal of the rejection is respectfully requested.

§*102 Rejection of the Claims*

Claims 3-8, 12-14, 19-22, and 25 were rejected under 35 U.S.C. § 102(b) as being anticipated by Rau et al., "Code Generation Schema for Modulo Scheduled Loop", the 25th Annual International Symposium on Microarchitecture, Vol. 23(1)(2), pp. 158-169, December 1992, (in the IDS mailed 3/28/01) hereafter referred to as Rau et al. Applicant respectfully traverses this rejection since all the limitations of claims 3-8, 12-14, 19-22, and 25 are not found in the Rau et al. publication.

Applicant respectfully points out that the words "predicate" and "predict" are different words having different meaning. The Rau et al. publication describes the use of "predicates." To "predicate" an execution of an operation is to flag it as being true or false after it has been executed and after it has been determined if it was executed correctly. Pipelined operations execute instructions before it is known if the operand values are correct or not. Later, when it is determined that the instruction was executed with correct or incorrect data, the operation is predicated or flagged as being proper or improper. Operations executed with incorrect values are given a predicate of false if they were executed improperly, and the results are discarded. Page 161 of the Rau et al. publication discusses predicated execution.

Applicant respectfully posits that the word "predict" is to guess the result ahead of time, such as predicting the outcome of tomorrow's football game, or to determine the outcome ahead of time, such as predicting that tomorrow is Saturday. The Rau et al. publication does not do any predictions and does not have a need for a register rotation prediction unit because it does not predict which registers will be renamed or what the new names (identifiers) of the registers will be. Therefore, there is no register rotation prediction unit in the Rau et al. publication, and all of the limitations of claims 3-8, 12-14, 19-22, and 25 are not found in the Rau et al. publication. For these reasons, and for other reasons not explored in this analysis, Applicant respectfully submits that the rejection of claims 3-8, 12-14, 19-22, and 25 under 35 U.S.C § 102(b) was incorrect. Reconsideration of the claims and removal of the rejection is respectfully requested.

§103 Rejection of the Claims

Claims 9-11 and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rau et al. in view of Fite et al. (U.S. 5,142,634). Claims 12-14 were rejected under 35 USC § 103(a) as being unpatentable over Rau et al. in view of D'Sa et al. (U.S.6,151,671). Applicant respectfully traverses these rejections for the reasons stated above and the fact that the patents to Fite et al. and of D'Sa et al., taken alone or in combination with the Rau et al. publication, fail to describe all of the limitations of claims 9-11 and 28.

Applicant respectfully submits that the rejection of claims 9-11 and 28 under 35 U.S.C § 103(a) was incorrect. Reconsideration of the claims and removal of the rejections is respectfully requested.

Allowable Subject Matter

Applicant acknowledges the fact that claims 17, 18, 26, and 27 were allowed.

Claims 29-30 were indicated to be allowable if rewritten to overcome the rejection(s) under 35 USC § 112 set forth in the Office Action. As described above, Applicant has corrected the problems under 35 U.S.C. § 112, second paragraph, and so claims 29-30 are now believed to be allowable. Reconsideration and allowance of all claims is respectfully solicited.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111
Serial Number: 09/819,339
Filing Date: March 28, 2001
Title: REGISTER ROTATION PREDICTION AND PRECOMPUTATION
Assignee: Intel Corporation

Page 12
Dkt: 884.368US1 (INTEL)

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 373-6904) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

HONG WANG ET AL.

By their Representatives,

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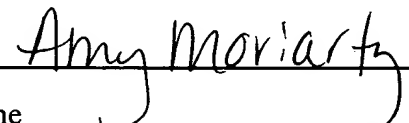Attorneys for Intel Corporation
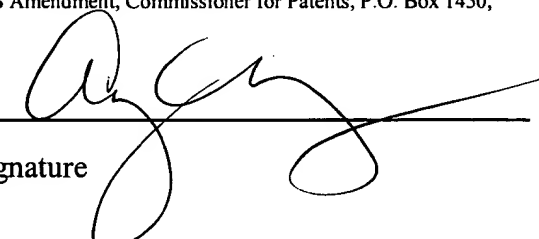P.O. Box 2938
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Date *April 22, 2005*   By _Daniel J. Kluth_
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 22nd day of April, 2005.

Amy Moriarty

Name

Signature